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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,242

03/30/2004

Roger G. Sellers

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EXAMINER

AMIRI, NAHID

ART UNIT

PAPER NUMBER

3679

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/28/2006

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/813,242

Applicant(s)

SELLERS ET AL.

Examiner

Nahid Amiri

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Response to Amendment**

In view of Applicant's Amendment received 11 October 2006, amendments to the claims have been entered. Claim 12 is withdrawn. Claims 1-12 are pending.

### ***Claim Rejections - 35 USC § 103***

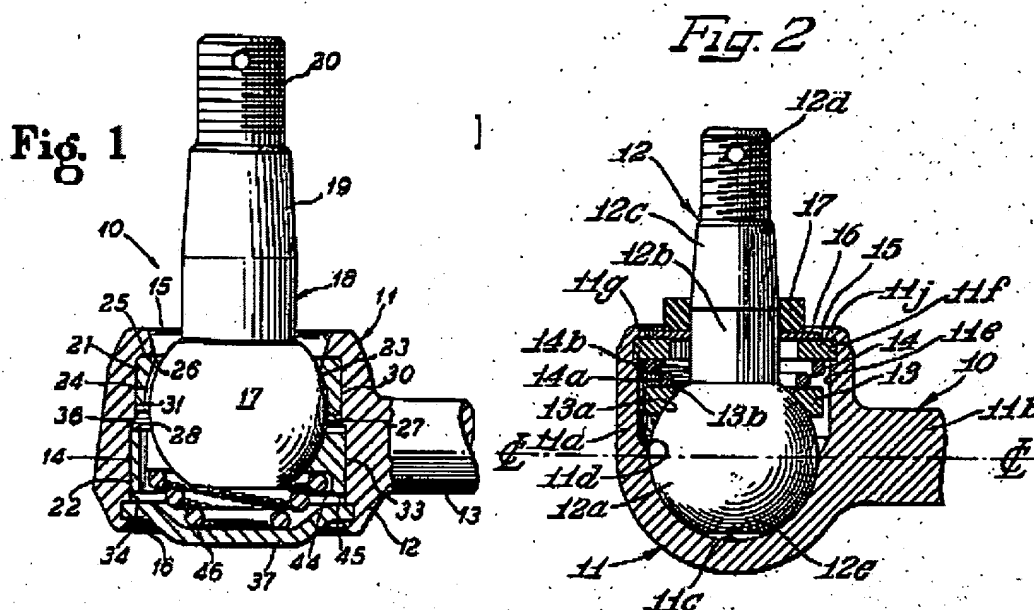
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 3-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,951,557 Herbenar, in view of US Patent No. 2,635,906 Graham et al.**

With respect to claims 1, 3-6 and 9, Herbenar discloses a ball joint (Fig. 1) comprising a metal housing (11) having side wall (35) which defines a central bore (14) having a closed end (37) and an open end (15); a metal lower bearing (33) disposed within the central bore (14); a moveable member having a head end portion (17) disposed in said central bore (14) and a shank portion (19) extending from said head end portion (17), the head end portion (17) engaging the metal lower bearing (33) in said central bore (14), said shank portion (19) being at least partially disposed outside of said central bore (14); wherein the annular metal upper bearing (21) disposed about said movable member within said central bore (14), said annular metal upper bearing (21) having an inner surface engaging said head end portion (17), an outer surface engaging said side wall; a spring member (46) compressed between the lower bearing (33) and the closed end (17) of the housing (11); the annular metal upper bearing (21) is configured to engage the side wall and the head end portion simultaneously. Herbenar does not disclose that the upper bearing has

a split segment linking said inner surface with said outer surface; an annular cover plate disposed about said movable member and secured within said central bore; and a spring member compressed between the annular cover plate and an upper surface of the annular metal upper bearing; annular cover plate and said spring member are composed of metal; and the spring member is configured to exert an axial preload force on the annular metal upper bearing towards the closed end of the central bore. Graham et al. teach a joint ball (10, Fig. 2) having an annular metal cover plate (15) disposed about a movable member (12) and secured within the central bore, an annular upper bearing (13), and a metal spring member (14) compressed between the annular cover plate (15) and an upper surface of the upper bearing (13); (column 3, lines 48-50) wherein the spring (14) is capable of exerting an axial preload force on the annular metal upper bearing (13) towards the closed end of the central bore (28). A bearing with a split segment is well known in the art for being as easy to engage a ball portion of a movable member. Therefore, It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the upper bearing of Herbenar with a split links in order to have engagement between the bearing and the movable member. It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the ball joint of Herbenar with an annular cover plate and a spring member compressed between the cover plate and upper surface of the upper bearing as taught by Graham in order to urge the bearing wall of the bearing ring to maintain it against the ball end of the stud.



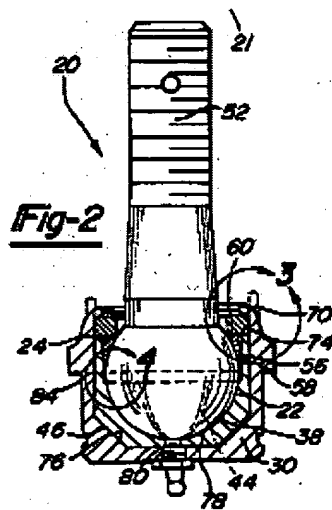
With respect to claim 10, Herbenar discloses the claimed invention except that the housing includes a deformable annular region adjacent the open end of the central bore; and the deformable annular region adapted for radially inward deformation to secure the annular cover plate within the central bore. Graham et al. teach (Figs. 2-3) that the housing (10) having a deformable annular region (constituted by a shoulder 11g) adjacent the open end of the central bore; and the deformable annular region (11g) adapted for radially inward deformation to secure the annular cover plate (15) within the central bore. It would have also been obvious to one of ordinary skill in the art at the time of invention was made to provide the housing of Herbenar with a deformable annular region in order to secure the cover plate within the central bore of the housing.

With respect to claims 11, Herbenar discloses a claimed invention except that the annular cover plate including a chamfered inner surface to restrict articulation of the movable member. It would have been an obvious matter of design choice to provide the annular cover plate of Herbenar with a chamfered inner surface in order to restrict the movement between the movable member and the housing, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

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**Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar and Graham et al. as applied to claims 1, 3-6 and 9-11 above, and further in view of US Patent No. 5,564,853 Maughan.**

With respect to claim 2, Herbenar discloses a claimed invention except that the metal housing further includes an axial lubrication port disposed in the closed end of the central bore. Maughan teaches a ball joint (Fig. 1) having a metal housing (30); wherein the metal housing (30) includes an axial lubrication port disposed in the closed end of the central bore (32). It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the housing of Herbenar with an axial lubrication port as taught by Maughan in order to maintain the very low wear integrity of joint.

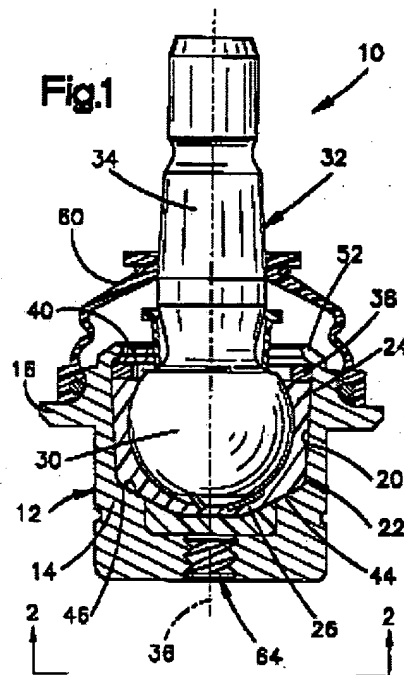


**Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herbenar and Graham et al. as applied to claims 1, 3-6 and 9-11 above, and further in view of US Patent No. 5,997,208 Urbach et al.**

With respect to claim 7, Herbenar discloses a claimed invention except for having a dust boot restrictor disposed about the shank portion. Urbach et al., teach (Fig. 1) having a dust boot restrictor (R, see attachment) disposed about the shank portion (12b-12d). It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the shank portion of Herbenar with a dust boot restrictor as taught by Urbach et al. in order to restrict the movement of the shank portion.

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With respect to claim 8, Herbenar discloses a claimed invention except for having a flexible dust cover coupled between the housing and the shank portion of the movable member. Urbach et al., teach (Fig. 1) a flexible dust cover (60) coupled between the housing (12) and the shank portion (34) of the movable member (32). It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide Herbenar with a dust cover as taught by Urbach et al., in order to seal the open upper end of the housing.



### *Response to Arguments*

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nahid Amiri whose telephone number is (571) 272-8113. The examiner can normally be reached on 8:30-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-

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7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nahid Amiri  
Examiner  
Art Unit 3679  
December 19, 2006



DANIEL P. STODOLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600